IN THE CLAIMS

1-9. (*Canceled*)

10. (*Previously Presented*) An insulated gate bipolar transistor device (IGBT), comprising:

a substrate heavily doped with a first dopant of one polarity;

buffer and drift layers doped with a second dopant of a polarity opposite to the first dopant, the buffer and drift layers located over the substrate, with the drift layer extending to a first surface, said first surface being opposite the substrate;

at least one base region doped with the first dopant, each said at least one base region bordered by the drift layer, each said at least one base region extending along said first surface to form a corresponding at least one base stripe on said first surface;

first and second source stripes doped with the second dopant and located in each said at least one base stripe, said source stripes being spaced apart from and substantially parallel relative to each other, said source stripes extending in a substantially parallel manner relative to the base stripe;

a body stripe defined between said source stripes;

first and second channel regions, each of said channel regions extending across a corresponding one of said at least one base stripe from a corresponding

one of said source stripes to said drift layer in a direction away from said body stripe;

a respective gate oxide stripe over each channel region;

a respective conductive gate stripe on each gate oxide stripe for controlling current through the corresponding channel;

a respective insulating layer over each conductive gate stripe, each insulating layer entirely covering a corresponding one of the source stripes;

a source contact layer disposed at least in part between the conductive gate stripes and overlying said body stripe;

a plurality of source contact regions heavily doped with the second dopant, said source contact regions disposed in the body stripe and extending from the body stripe to at least one of the source stripes and in electrical contact with the source contact layer, said source contact regions spaced apart from each other along said body stripe and along said source stripes; and

wherein said source stripes are divided into a plurality of elongate source segments spaced from each other along opposite sides of the body stripe, portions of a corresponding one of said at least one base region disposed between opposite ends of sequential segments to separate the sequential source stripe segments from each other, said source stripes having forward and rearward ends and wherein corresponding ends of source stripes disposed on opposite sides of the body stripe are jogged with respect to each other.

11. (*Canceled*)

12. (*Previously Presented*) An insulated gate bipolar transistor device (IGBT), comprising:

a substrate heavily doped with a first dopant of one polarity;

buffer and drift layers doped with a second dopant of a polarity opposite to the first dopant, the buffer and drift layers located over the substrate, with the drift layer extending to a first surface, said first surface being opposite the substrate;

at least one base region doped with the first dopant, each said at least one base region bordered by the drift layer, each said at least one base region extending along said first surface to form a corresponding at least one base stripe on said first surface;

first and second source stripes doped with the second dopant and located in each said at least one base stripe, said source stripes being spaced apart from and substantially parallel relative to each other, said source stripes extending in a substantially parallel manner relative to the base stripe;

a body stripe defined between said source stripes;

first and second channel regions, each of said channel regions extending across a corresponding one of said at least one base stripe from a corresponding one of said source stripes to said drift layer in a direction away from said body stripe;

a respective gate oxide stripe over each channel region;

a respective conductive gate stripe on each gate oxide stripe for controlling current through the corresponding channel;

a respective insulating layer over each conductive gate stripe, each insulating layer entirely covering a corresponding one of the source stripes;

a source contact layer disposed at least in part between the conductive gate stripes and overlying said body stripe;

a plurality of source contact regions heavily doped with the second dopant, said source contact regions disposed in the body stripe and extending from the body stripe to at least one of the source stripes and in electrical contact with the source contact layer, said source contact regions spaced apart from each other along said body stripe and along said source stripes; and

wherein said source stripes are divided into a plurality of elongate source segments spaced from each other along opposite sides of the body stripe, portions of a corresponding one of said at least one base region disposed between opposite ends of sequential segments to separate the sequential source stripe segments from each other, said source segments having different lengths.

13. (*Currently Amended*) An insulated gate bipolar transistor device (IGBT), comprising:

a substrate heavily doped with a first dopant of one polarity;

buffer and drift layers doped with a second dopant of a polarity opposite to the first dopant, the buffer and drift layers located over the substrate, with the drift layer extending to a first surface, said first surface being opposite the substrate;

at least one base region doped with the first dopant, each said at least one base region bordered by the drift layer, each said at least one base region extending along said first surface to form a corresponding at least one base stripe on said first surface;

first and second source stripes doped with the second dopant and located in each said at least one base stripe, said source stripes being spaced apart from and substantially parallel relative to each other, said source stripes extending in a substantially parallel manner relative to the base stripe;

a body stripe defined between said source stripes;

first and second channel regions, each of said channel regions extending across a corresponding one of said at least one base stripe from a corresponding one of said source stripes to said drift layer in a direction away from said body stripe;

a respective gate oxide stripe over each channel region;

a respective conductive gate stripe on each gate oxide stripe for controlling current through the corresponding channel;

a respective insulating layer over each conductive gate stripe, each insulating layer entirely covering a corresponding one of the source stripes;

a source contact layer disposed at least in part between the conductive gate stripes and overlying said body stripe;

a plurality of source contact regions heavily doped with the second dopant, said source contact regions disposed in the body stripe and extending from the body stripe to at least one of the source stripes and in electrical contact with the source contact layer, said source contact regions spaced apart from each other along said body stripe and along said source stripes; and

wherein said source stripes are divided into a plurality of elongate source segments spaced from each other along opposite sides of the body stripe, portions of a corresponding one of said at least one base region disposed between opposite ends of sequential segments to separate the sequential source stripe segments from each other, and wherein said source segments having respective and predetermined lengths, said predetermined lengths being dependent at least in part upon the proximity of said source segments to a center of the IGBT die, and said predetermined lengths being relatively shorter proximate to the center of the IGBT die.

14. (*Previously Presented*) The IGBT of claim 13 wherein said predetermined lengths of said source segments are dependent upon a desired local SCIS current density.

15-24. (*Canceled*)

25. (*Previously Presented*) An insulated gate bipolar transistor device (IGBT), comprising:

a substrate heavily doped with a first dopant of one polarity;

a drift layer over the substrate and doped with a second dopant of an opposite polarity, the drift layer extending to a surface opposite the substrate;

at least one base region doped with the first dopant, each said at least one base region bordered by the drift layer and extending along said surface to form a corresponding at least one base stripe on said surface of the device;

source stripes with second dopants in each of said at least one base region, a body stripe defined between said source stripes, said source stripes for forming channel regions that extend across said base stripes proximate said surface from a corresponding one of said source stripes to said drift layer in a direction away from said body stripe;

a respective insulated control gate overlying a corresponding base and source stripe and over a corresponding channel region, each control gate including a gate stripe and an insulating layer, said insulating layer entirely covering a corresponding one of said source stripes;

source contact regions disposed adjacent the source stripes, said source contact regions spaced apart from each other along said body stripe and along

said source stripes;

resistances formed within the source stripes between the source contact regions, said resistances constricting the flow of electron current between the drift layer and the source contact regions; and

wherein said source stripes are sequentially segmented into sequential source segments, said sequential source segments being separated from each other by a portion of a corresponding one of said at least one base region said sequential source segments of opposite source stripes are jogged with respect to each other and are connected together at their opposite, jogged ends by a source contact region.

26-27. (*Canceled*)

28. (*Previously Presented*) An insulated gate bipolar transistor device (IGBT) comprising:

a substrate heavily doped with a first dopant of one polarity;

a drift layer over the substrate and doped with a second dopant of an opposite polarity, the drift layer defining a surface opposite the substrate;

a trench gate in said surface including a gate insulator disposed between the trench gate and said surface, and a conductive material adjacent the gate insulator forming a gate electrode;

base regions disposed on opposite sides of said gate trench and being doped with the first dopant, each base region bordered by the drift layer and extending along a length of said surface to form base stripes on said surface;

source stripes disposed between the base stripes and the trench and shallower than the base for forming channel regions along opposite sides of the trench;

an insulating layer entirely covering the trench gate and the source stripe regions;

a plurality of vias in the insulating layer and over the source contact regions;

source contact regions extending between the base regions and the source stripes, said source contact regions being spaced apart relative to each other and along the base and source stripes;

a plurality of channel resistances in the source stripes and disposed between the source contact regions; and

a source contact layer over the insulating layer and extending through the vias therein to contact the source contact regions in the source stripes.

29-30. (*Canceled*)

31. (*Previously Presented*) The IGBT of claim 28 wherein the base

regions are connected together to form a common base.

32. (*Previously Presented*) An insulated gate bipolar transistor device (IGBT), comprising:

a substrate heavily doped with a first dopant of one polarity;

a drift layer over the substrate and doped with a second dopant of an opposite polarity, the drift layer defining a surface opposite the substrate;

a trench gate in said surface including a gate insulator disposed between the trench gate and said surface, and a conductive material adjacent the gate insulator forming a gate electrode;

base regions disposed on opposite sides of said gate trench and being doped with the first dopant, each base region bordered by the drift layer and extending along a length of said surface to form base stripes on said surface;

source stripes disposed between the base stripes and the trench and shallower than the base for forming channel regions along opposite sides of the trench;

a insulating layer entirely covering the trench gate and the source stripe regions;

a plurality of vias in the insulating layer and over the source contact regions;

source contact regions extending between the base regions and the

source stripes, said source contact regions being spaced apart relative to each other and along the base and source stripes;

a plurality of channel resistances in the source stripes and disposed between the source contact regions;

a source contact layer over the insulating layer and extending through the vias therein to contact the source contact regions in the source stripes; and

wherein the source stripes are sequentially segmented into sequential segments, said sequential segments are separated from each other by a portion of a corresponding one of said base regions.

33. (*Previously Presented*) The IGBT of claim 32 wherein source segments opposite each have source contact regions in the middle of the segments.

34. (*Currently Amended*) The IGBT of claim **[[30]]** **32** wherein the sequential segments of opposite source stripes are jogged with respect to each other, sequential segments on one side of the trench have source contact regions at a head end of the segments and sequential segments on the other side of the trench have source contact regions at a tail end of the segments, the head ends of the one segments are opposite the tail ends of the other segments.

35-37. (*Cancelled*)

38. (*Currently Amended*) ~~The IGBT of claim 35~~ An insulated gate bipolar transistor device (IGBT) comprising:

a substrate heavily doped with a first dopant of one polarity;

a drift layer over the substrate and doped with a second dopant of an opposite polarity, the drift layer extending to a surface opposite the substrate;

base regions doped with the first dopant, each base bordered by the drift layer and extending along a length of the surface to form a plurality of base stripes on the surface of the device;

two source stripes regions disposed inside each base stripe, the source stripe regions shallower than the base for forming channel regions at a junction of the base stripe and the source stripe;

source contact regions extending between the base regions and the source stripes, said source contact regions being spaced apart along a length of said source stripes;

an insulating layer entirely covering the source stripes and having vias above the source contact regions;

a source contact layer over the source stripes and in the vias for contacting the source contact regions.

a plurality of channel resistances in the source stripes and disposed

20 between the source contact regions;

a gate including a gate insulator and conductive material adjacent the gate insulator forming the gate electrode, said gate disposed over the channel region formed by the base and source stripes; and

wherein the base regions are connected together to form a common base.

39-41. (*Cancelled*)

42. (*Original*) The IGBT of claim 32 wherein the gate is a trench gate extending from the surface into the base region.